

| PRE-APPEAL BRIEF REQUEST FOR REVIEW | | Docket Number (Optional) | |
|---|--|--------------------------|---------------------|
| <p>I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]</p> <p>on _____</p> <p>Signature _____</p> <p>Typed or printed name _____</p> | | Application Number | Filed |
| | | 10/565,317 | 01/19/2006 |
| | | First Named Inventor | |
| | | Brian Smith | |
| | | Art Unit | Examiner |
| | | 3635 | Katcheves, Basil S. |
| <p>Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.</p> <p>This request is being filed with a notice of appeal.</p> <p>The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.</p> <p>I am the</p> <p><input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration number <u>53,737</u></p> <p><input type="checkbox"/> attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.</p> | | | |
| <p><input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.</p> | | | |



Signature

Laura R. Wanek

Typed or printed name

(312) 360-0080

Telephone number

April 23, 2010

Date

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

1995.74509

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re U.S. Patent Application)
Applicant: Brian Smith)
Serial No. 10/565,317)
Conf. No. 7637)
Filed: January 19, 2006)
For COMPOSITE BUILDING PANEL AND)
METHOD OF MAKING COMPOSITE)
BUILDING PANEL)
Art Unit: 3635)
Examiner: Katcheves, Basil S.)

Pre-Appeal Brief Request for Review

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

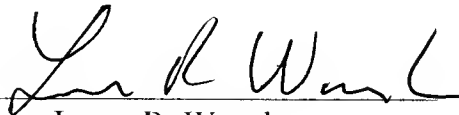
Applicant requests a pre-appeal review of the outstanding final rejection of the pending claims in this Application based upon the attached remarks.

April 23, 2010

300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
(312) 360-0080
Customer No. 24978

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 

Laura R. Wanek
Reg. No. 53,737

Pre-Appeal Brief Request for Review

Remarks

For the reasons set for the below, Applicant respectfully requests the withdrawal of the §103 rejection of Claims 32-38 as being unpatentable over United States Patent No. 4,649,682 to Barrett, Jr. in view of United States Patent No. 6,708,459 to Bodnar. Of the pending claims, Claim 32 is the only independent claim.

As explained in more detail below, Applicant respectfully submits that the cited references fail to disclose or suggest a prefabricated composite wall panel for the exterior wall of a structure that includes, *inter alia*, “a plurality of spaced apart C-shaped, metal frame members having a web, a first flange continuous with and projecting orthogonally from one end of said web, and a second flange continuous with and projecting orthogonally from a second end of said web, said first flange being fully embedded in said concrete slab, said one end of said web being embedded in said slab and said web projecting from said interior face of said slab, and said second flange being non-embedded in concrete and spaced apart from the interior surface of said concrete slab... a reinforcing layer fastened to said first flange of at least one of said frame members and being fully embedded in said concrete slab; wherein said concrete slab has a density of 400 to 1760 kg/m³ (25 to 110 pcf) and includes entrained air that lowers the thermal conductivity of the slab and forms a thermal barrier between said metal frame members and the ambient exterior of the structure,” as defined in independent Claim 32.

Applicant's Figure 4 shows a composite panel having an exterior face configured to be exposed to the ambient exterior of the structure, and an interior face configured for the interior of the structure. A metal frame is partially embedded in the interior face of the concrete. The concrete is air entrained and has a density of 25 pcf to 110 pcf, which forms a thermal barrier between the metal frame and the exterior of the structure. The

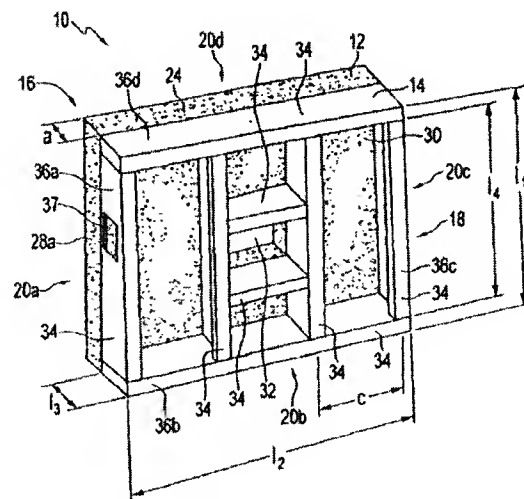
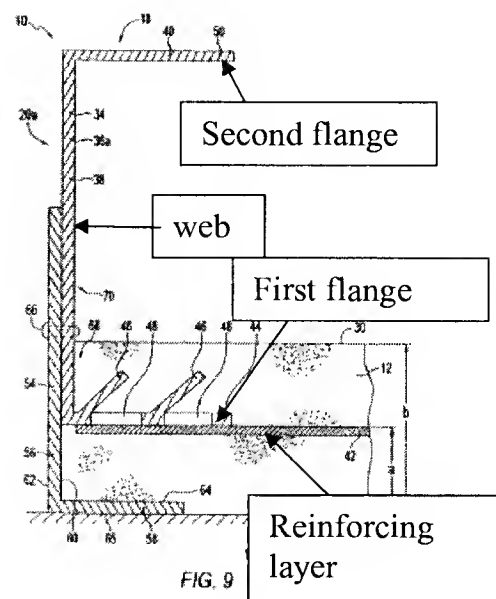


FIG. 4

Applicant's annotated Figure 9 shows a C-shaped frame having a web, and first and second flanges that are continuous with and project orthogonally from each end of the web. The first flange is fully embedded in concrete, the web is partially embedded in concrete, and the second flange is not embedded in concrete. A reinforcing layer is embedded in the concrete and fastened to the first flange.



As will be shown by the Remarks contained herein, the §103 rejection is improper because it fails to make a *prima facie* case of obviousness. Accordingly, Applicant respectfully requests that the rejection be withdrawn, and that the application be allowed without subjecting Applicant to the delay and expense of a full appeal.

I. Independent Claim 32 and Its Associated Dependent Claims Should be Allowed on Pre-Appeal Because the Examiner has Failed to Make a *Prima Facie* Case of Obviousness.

A *prima facie* case of obviousness requires that all of the claim limitations are taught or suggested by the prior art. *See e.g., Ex parte John W. George*, Bd. Pat. App. Int., Appeal No. 2009-011132, September 14, 2009 (“It is elementary that to support an obviousness rejection, all of the claim limitations must be taught or suggested by the prior art applied (*see In re Royka*, 490 F.2d 981, 984-85 (CCPA 1974)) and that all words in a claim must be considered in judging the patentability of that claim against the prior art (*In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970)).” (citations in original)).

The Examiner has not shown that all of the claimed features are disclosed or suggested in the cited references. More specifically, neither Barrett nor Bodnar, alone or in combination, disclose or suggest a metal frame embedded in air entrained concrete having a

density of 400 to 1760 kg/m³ (25 to 110 pcf), as recited in claim 32. As explained herein and supported by the Smith Declaration, it is not an obvious design choice to use air entrained concrete of the claimed density range in combination with the embedded metal frame in an exterior wall panel. Because the cited art does not recognize thermal conductivity of the concrete as a result effective variable to address the issue of heat transfer from the concrete through the metal frame, it cannot be obvious to optimize density, which has a direct correlation to thermal conductivity. Additionally, the prior art does not disclose or suggest the specific wall panel structure of claim 32.

*A. The Cited Art Teaches Away From The Features Defined
In Independent Claim 32.*

As correctly acknowledged by the Examiner, the Barrett reference does not disclose or suggest concrete having the specific density of 25 to 110 pcf. *See* February 25, 2010 Final Office Action, page 3, lines 10-12. Accordingly, the Examiner relied upon the premise of “obvious design choice” and asserted that the Applicant failed to show criticality for the claimed range.

The Applicant submits that criticality of the claimed density range is of record. The specified density of claim 32 lowers the thermal conductivity of the slab and forms a thermal barrier for problematic thermal transfer from the exterior surface of the concrete to the interior of the panel through the metal frame. As supported by the Smith Declaration, the prior art that recognizes the issue of thermal transfer from the concrete through the metal frame actually teaches away from the structure recited in claim 32.

Specifically, the Bodnar reference teaches away from embedding a continuous flange and a web of the frame into concrete. To slow the heat transfer through the frame, Bodnar provides openings 32 in the frame to make the flange non-continuous with the web. *See* Bodnar, FIG. 2, openings 32; col. 1, lines 44-46; col. 2, lines 32-52.

The problem of heat transfer is also conventionally solved by spacing the metal frame members a distance apart from the concrete panel with spacers or other devices. The O’Konski reference states: “In particular, the maintaining of a spaced relation between the

wall surface elements and the steel studding provides ... more effective insulation against transmission of heat and cold through the walls” (U.S. Patent No. 3,802,147 to O’Konski at column 3, lines 11-19).

An ordinary artisan would not embed the metal frame into the concrete as Mr. Smith has done because of the thermal transfer issue. Departing from the teachings of Bodnar and O’Konski, the Applicant, Mr. Smith, discovered that metal frame members can be successfully embedded in air entrained concrete because air entrained concrete of the claimed density range is a better insulator, reduces heat transfer, and forms a thermal barrier between the metal frame members and the ambient exterior of the structure, which was not recognized by the prior art. A claim is non-obvious where the prior art teaches away from the invention. In Crocs, Inc. v. International Trade Commission, et al., Slip Op. 2008-1596 (Fed. Cir. Feb. 24, 2010), the Federal Circuit reversed an ITC decision holding a patent invalid under Section 103 where the prior art taught away from a claimed passive restraint system. *Id.* at pp. 18-22.

B. The Composite Panel Of Claim 32 Is Not The Result of Routine Experimentation.

While it is the Examiner’s position that routine experimentation would result in concrete of the claimed density by reducing the weight of the panel, the weight of the panel is not the variable being optimized in the present case. Reduced thermal conductivity is being optimized, but as explained above, addressing the problem caused by thermal conductivity in metal frame members by using air entrained concrete of a lower density was not recognized in the cited art. Referring to MPEP 2144.05(II)(B), a particular parameter must first be recognized as a result-effective variable before the determination of the optimum or workable ranges can be characterized as a routine experimentation. Since the prior art suggested spacing the frame from the concrete (U.S. Patent No. 3,802,147 to O’Konski), or providing the frame with openings (U.S. Patent No. 6,708,459 to Bodnar), the prior art did not recognize that the concrete could provide a thermal barrier from heat transfer from the frame as a function of the density of concrete, and therefore thermal conductivity was not

recognized as a result-effective variable. For this reason, the specified density of air entrained concrete that lowers the thermal conductivity of the slab and forms a thermal barrier between the metal frame members and the ambient exterior of the structure is not an obvious design choice.

C. The Panel Structure As Recited In Claim 32 Is Not Disclosed or Suggested in the Cited Art.

Whereas light weight concrete of the claimed density is known, an exterior wall panel having the claimed combination of a C-shaped metal frame having one flange fully embedded in the reinforced, air entrained concrete slab, with the web projecting from the slab, and a second non-embedded flange spaced apart from the slab, is not disclosed or suggested in either Barrett or Bodnar.

For at least the foregoing reasons, the combination of Barrett and Bodnar does not render the claims obvious. Applicant respectfully requests the withdrawal of this §103 rejection of independent Claim 32 and associated dependent Claims 33-38 as it has been shown that this rejection is in error.

II. Conclusion


Applicant asks that this pre-appeal review request be sustained, and that the application be allowed. As the sole §103 rejection has been shown to have been in error, the pendency of this application should be completed with issuance of Notice of Allowance.

April 23, 2010

300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
(312) 360-0080
Customer No. 24978

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By 
Laura R. Wanek
Registration No. 53,737